

# Commentary

Elizabeth C. McNichol

**T**he deepest economic downturn since the Great Depression has caused state revenues to plunge and put state services at risk. Recovery from the resulting state fiscal crisis will take years and require strong and stable revenue growth. The Cornia and Nelson (2010) paper, as well as earlier research, demonstrates that a tax system that both grows adequately and is stable must be diverse—that is, include a range of different taxes. However, all taxes are volatile to some degree. States can cope with these unavoidable ups and downs by maintaining adequate rainy day funds. Preparing forecasts of spending and revenues that extend beyond one year would allow timely implementation of remedies. Attention to the growth potential and relative volatility of different state taxes is crucial to resolving the current fiscal crisis and maintaining adequate funding for state programs over the long term.

An adequate state tax structure must both raise sufficient revenues at a given point in time and grow each year. State taxes fund health care, education, public safety, transportation, and other important government services. State costs naturally grow from year to year regardless of a state's fiscal efficiency. State governments and agencies must offer wages competitive with the private sector to attract and retain workers. Health care costs are a major component of state and local budgets and have been rising faster than general inflation. Demographic factors—such as an aging population—also play a role in the growth of government expenditures.

For these reasons, tax revenues must grow each year to fund state services on an ongoing basis without frequent tax rate increases or program cutbacks. When the natural rate of revenue growth falls short of the rate of spending growth—the situation in most states—a state faces a structural deficit. These structural problems are not as obvious in today's economy because states have been overwhelmed by the impact of the cyclical decline of state revenues, but these problems have not gone away.

In their paper, Professors Cornia and Nelson address the important and timely topic of growth and volatility in state tax systems. These issues are relevant both to the resolution of structural deficits and to the states' ability to recover from the current fiscal crisis.

State revenues will not recover from their current depressed level until employment returns to normal levels. That is expected to take a number of years after the end of the recession. We estimate that states are facing budget shortfalls in fiscal year 2011 just as large as those they closed in fiscal year 2010 and that these problems will continue into 2012 and beyond. Unfortunately, states will have fewer resources to address them. Much of the federal aid provided through the American Recovery and Restoration Act will end in 2010, and most states have already drawn down their rainy day funds and used other short-term measures.

To continue to fund ongoing programs, states will need to replace one-time revenues, such as Recovery Act dollars and reserve funds, as well as pay for ordinary growth in spending. As a result, states will need not only restoration of normal

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revenue growth but also above-average growth over the next few years to even approach pre-recession revenue levels. Moreover, once this is achieved, most states will continue to face structural budget deficits.

Over the next few years, states are likely to consider changes to their tax systems to produce growth needed to maintain services. At the same time, recent experience will make them wary of introducing too much volatility. But as Cornia and Nelson suggest, a little volatility can be a good thing if it is the price paid for growth. Careful study of the relative volatility and growth of specific types of taxes will help states make informed decisions about these trade-offs.

Cornia and Nelson make an important contribution to the literature on the subject, but they also demonstrate some of the problems inherent in this kind of analysis. Their paper initially discusses the relationship between economic growth and state revenue growth. They find that, in aggregate, state revenues have grown at about the same rate as state economies over the past two decades. In normal times, the rate of economic growth has been shown to be a useful proxy for the natural rate of growth in the total cost of state programs. When revenues grow naturally at the same rate as the economy, a state generates enough funds to cover the costs of its budget each year. The current state fiscal crisis is not the result of a run-up in state spending prior to the recession—state spending has not expanded as a share of the economy. Rather, it is the result of a dramatic decline in state revenues due to the recession.

On the face of it, this look at state revenue growth relative to economic growth seems to show that state tax collections have grown at an appropriate rate to meet the ongoing costs of providing state services. In other words, it appears that the natural growth rate of state taxes is the same as the natural growth rate of state costs. However, this apparent match was actually the result of multiple changes in state tax rates—often increases—and changes to tax bases that occurred during the period studied. These affected both the growth rates and the volatility of state taxes.

Cornia and Nelson go on to examine the growth rates and volatility of different state taxes. This

information can assist policymakers as they make decisions about future increases and decreases in state taxes. But policymakers need to proceed with caution when using analysis such as this to determine the best mix of taxes to provide adequate growth for the future as well as adequate funding now.

For example, a simple look at the growth rates over time leads to the impression that cigarette taxes grow at about the same rate as other state taxes (Figure 1). It is true that the median percentage growth in total cigarette tax collections is about average compared with growth in other taxes over the two decades studied. However, this is misleading because that “average” growth resulted from the relative willingness of states to raise cigarette tax rates in recent years rather than from the underlying design of the tax. In the absence of regular rate increases, cigarette tax collections tend to decline rather than grow over time. The base of this tax—tobacco consumption—has been declining. According to the U.S. Department of Agriculture, cigarette consumption has been declining by about 2 percent per year since 1990.<sup>1</sup>

The problem of not accounting for rate and base changes exists to a lesser degree with other major state and local taxes. For example, state sales tax rates increased on average over the period. At the same time, the number of goods and services in the base subject to the sales tax expanded in some states and decreased in others.

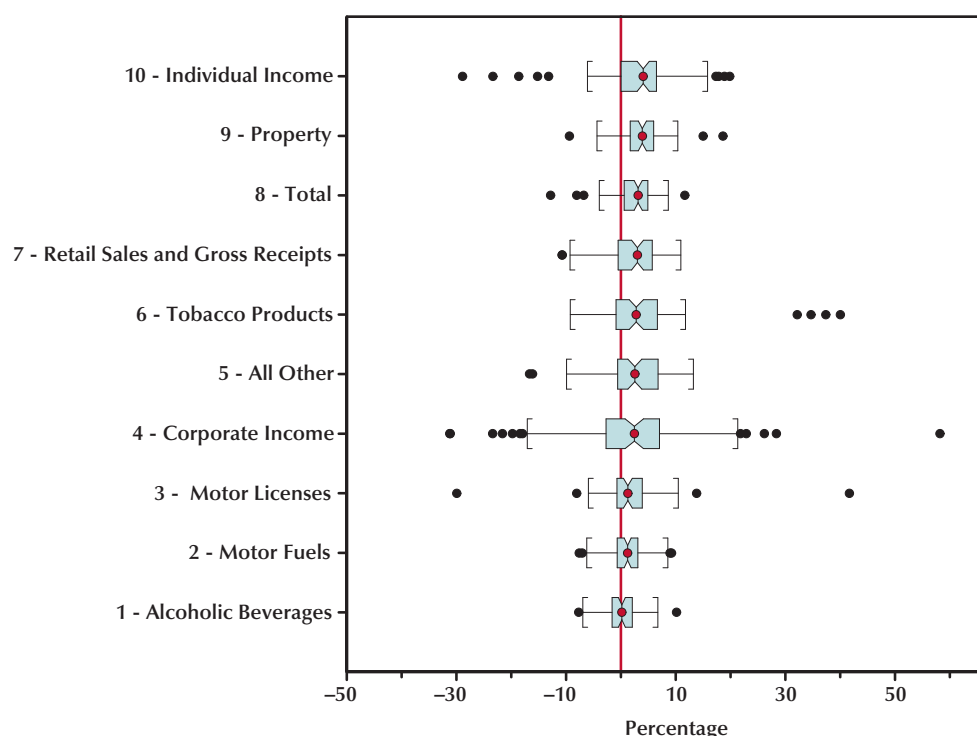
It is difficult to find a comprehensive national source of data for all 50 states that would allow for complete exclusion of the effects of rate and base changes. But this information is needed to determine the underlying growth rate of different types of taxes.

The effect of rate and base changes can be dramatic. For example, the state of Connecticut publishes historical information on annual state tax collections adjusted for rate and base changes. As shown in Figure 2, between 1989 and 2008, tobacco tax collections grew by 7.9 percent per year as a result of large rate increases in the past two decades. But when these rate increases were factored out, Connecticut’s tobacco tax collections declined by 2.8 percent. Motor fuel and alcohol

<sup>1</sup> Economic Research Service (2006 and 2007).

**Figure 1**

**State and Local Taxes: Year-Over-Year Growth Rates in Quarterly Revenues Ranked by Median of Percentage Change (1989-2009)**



NOTE: This is Figure 6A in Cornia and Nelson (2010).

SOURCE: Census Bureau Quarterly State and Local Government Tax Revenue.

taxes show a similar pattern. To a lesser extent, Connecticut's personal income tax growth rates are overstated and sales tax rates are understated because Connecticut raised its income tax rates and lowered its sales tax rates.<sup>2</sup>

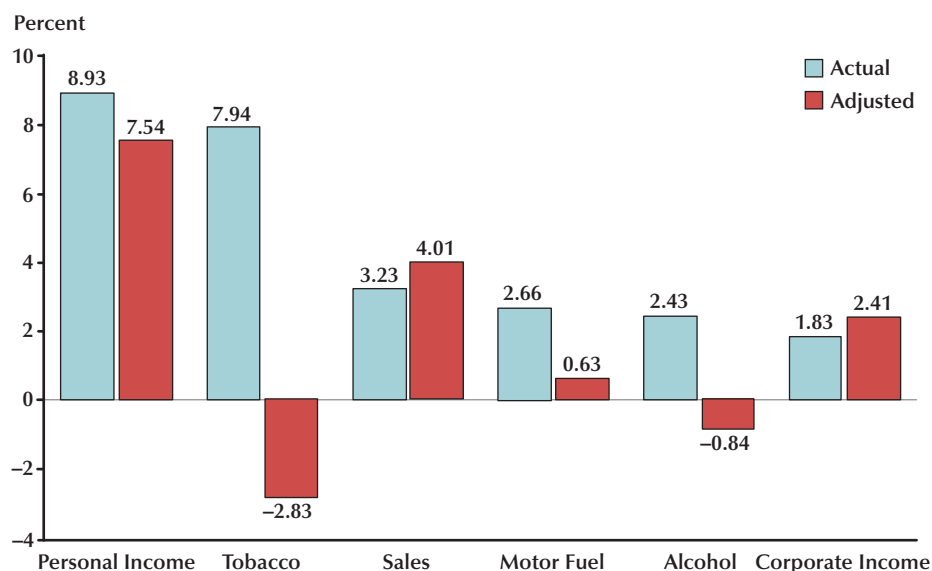
The Cornia and Nelson paper uses Census data—really the only source with comparable state-by-state numbers over time—but the limitations of this data source should be acknowledged. Policymakers who rely on this type of analysis to inform tax-change deliberations need to keep in mind that this is a holistic view of changes in tax collections that includes policy changes and not only natural growth.

<sup>2</sup> Note that the period covered for the income tax is from 1992, the inception of the tax, to 2008.

Failing to account for rate and base changes makes this analysis less useful to states. A state that decided to raise revenue by doubling its cigarette tax, for example, should expect future revenue from this source to decline, not grow significantly, as it does in Cornia and Nelson's analysis of unadjusted tax collections, unless it also planned to implement regular and large rate increases.

Although it would be difficult to adjust a lengthy period of yearly data for each state, it would be possible to note rate changes—and, in some cases, base changes—to allow policymakers to see how much of the growth and volatility results from policy rather than the characteristics of the tax.

For example, Table 1 summarizes changes to cigarette, motor vehicle, and sales tax rates over the past two decades. As noted, states raised ciga-

**Figure 2****Connecticut Tax Collections (1989 to 2008)**

SOURCE: Connecticut Office of Fiscal Analysis.

**Table 1****Selected Median State Tax Rates**

State tax rates	1989 Median	2009 Median
Cigarettes (\$ per pack)	0.20	1.15
Gasoline (\$ per gallon)	0.16	0.24
General (%)	5.00	5.75

SOURCE: Advisory Commission on Intergovernmental Relations (1991); Commerce Clearing House (2010).

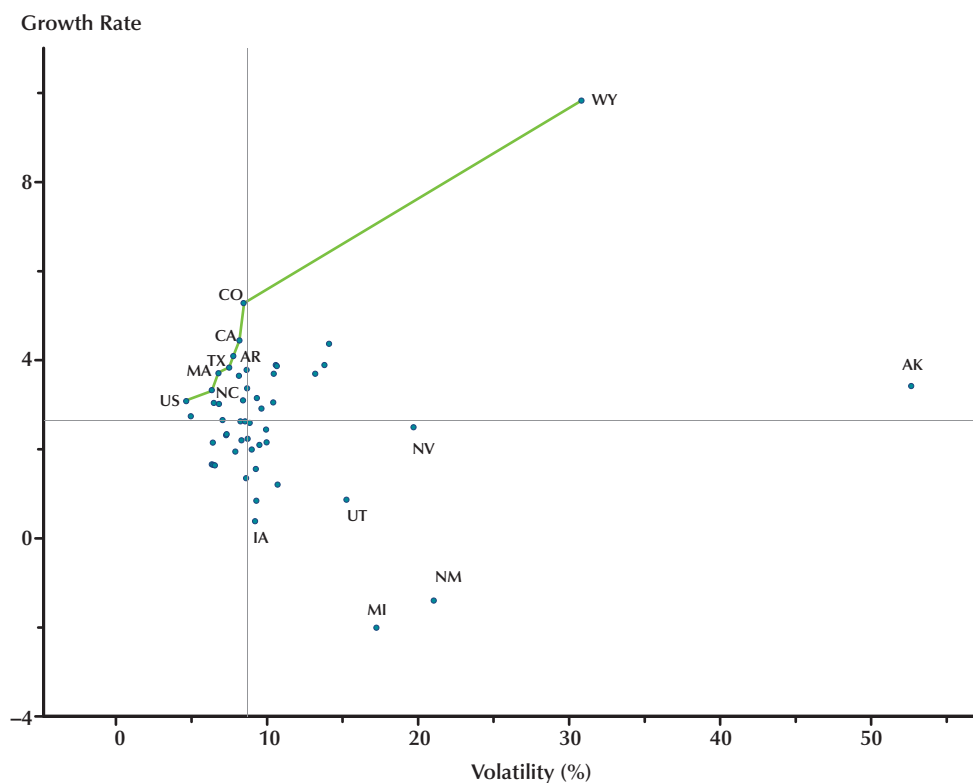
rette tax rates significantly over this period. The median cigarette tax rate increased from 20 cents per pack in 1989 to \$1.15 per pack in 2009. The median gasoline tax rate increased by almost 50 percent.

The median state sales tax rate has also grown over this period. As a result, care must be taken in interpreting the results. First, the growth of the sales tax is likely overstated because it captures the effect of rate increases as well as changes in consumption and inflation. In addition, the relative

volatility of the tax is likely understated because rate and base changes may have offset declines in collections resulting from economic downturns. The opposite is likely true for personal income taxes, which were cut significantly during the extended periods of economic growth of the 1990s and 2000s. Its growth rate is likely overstated. But the volatility of the income tax may also be understated, as states cut the income tax when it was growing rapidly and thus dampened some of the tax's volatility.

### Figure 3

**The Growth-and-Volatility Efficiency Frontier for State Tax Revenues: Year-Over-Year Percentage Change in Quarterly Total State Tax Receipts (1995-2009)**



NOTE: This is Figure 10 in Cornia and Nelson (2010).

SOURCE: Census Bureau Quarterly State and Local Government Tax Revenue.

In a 2006 paper, Bruce, Fox, and Tuttle examined the question of the relative volatility of sales and income taxes using similar Census data. They performed regression analyses that included adjustments for the sales tax rate and controls for income tax rate changes. They found that the growth of the personal income tax relative to the economy was significantly higher than that of the sales tax and that the long-run volatility of the income tax was about double that of the sales tax. However, they also found that the short-run volatility of the sales tax was not uniformly greater than that of the income tax. The experience of the current recession, which saw deep declines in sales tax collections, bears out this result.

But even with the limitations discussed above, the Cornia and Nelson analysis illustrates the growth and volatility dilemma for states. Ideally, a state would adopt a tax structure that (i) grows well to allow funding of services on an ongoing basis and (ii) is relatively stable (that is, has low volatility) to allow for planning. As shown in Figure 3, when all factors, including the relative willingness and ability to make tax policy changes, are included, only one in four states achieves this combination of average or above-average growth and low volatility.

Cornia and Nelson's comparison of Tennessee and Oregon also illustrates this point. Oregon, which relies heavily on the income tax and has no

general sales tax, shows both higher growth and higher volatility than Tennessee, which relies on the sales tax and has no income tax. In this case, the comparison would be even starker if policy changes were factored out. Over the period shown, Tennessee increased its sales tax rate, which boosted its growth. Oregon, on the other hand, had a provision called the “kicker” that resulted in automatic income tax cuts, which reduced both volatility and growth.

As state policymakers deal with the aftermath of recession and plan for the future, they will need to balance the desire for a highly stable tax system with the need for new revenues. Robust—in fact, above-average—growth will be needed to restore programs to pre-recession levels, and the income tax is the major state revenue source that can supply that growth. Some specific changes can increase that growth, such as making the rate structure more progressive or taxing capital gains. The more progressive the tax, the higher the growth will be when the economy is growing, but volatility may also increase. That presents a problem because states must balance their budgets every year, not just on average over a number of years.

The solution to this dilemma lies in other policies. First, some of the volatility of the income tax could be offset by redesigning other state taxes such as the sales tax. For example, a broader sales

tax base likely would grow rather than decline with the economy and be more stable. (It would be interesting to see research that factors in the effect of such policy changes on volatility.)

Second, adequate rainy day funds and other reserves can help states better manage revenue systems that fluctuate with the economy: In good times, states can reserve revenues to draw upon when economic growth—and thus revenue growth—slows.

Third, states can diversify their tax systems by relying on a mix of taxes rather than one tax. A disproportionate reliance on one tax can leave a state more vulnerable to economic changes. For example, sales tax collections declined significantly at the start of the recession. Later, income tax collections dropped sharply but sales tax collections began to rebound as consumers started spending. A state that depends almost exclusively on one or the other tax would not have the benefit of this balance.

Finally, the overall lesson for policymakers is to keep resources in mind when planning for the future and to allow as much transparency as possible when assessing the impact of the existing tax structure on future decisions. One way to do this is to prepare and publish forecasts of revenues and spending beyond the upcoming budget year.

## REFERENCES

- Advisory Commission on Intergovernmental Relations. *Significant Features of Fiscal Federalism, 1991*. Volume 1: Budget Processes and Tax Systems. Washington, DC: ACIR, February 1991, M-176.
- Bruce, Donald; Fox, William F. and Tuttle, M.H. “Tax Base Elasticities: A Multi-State Analysis of Long-Run and Short-Run Dynamics.” *Southern Economic Journal*, October 2006, 73(2), pp. 315-41.
- Commerce Clearing House. *State Tax Guide*. <http://intelliconnect.cch.com/scion/secure/index.jsp#page> (subscription only; accessed March 2010).
- Cornia, Gary C. and Nelson, Ray D. “State Tax Revenue Growth and Volatility.” Federal Reserve Bank of St. Louis *Regional Economic Development*, 2010, 6(1), pp. 23-58.
- Economic Research Service, U.S. Department of Agriculture. *Tobacco Outlook*. TBS-263, October 24, 2007; <http://usda.mannlib.cornell.edu/usda/ers/TBS//2000s/2007/TBS-10-24-2007.pdf>.
- Economic Research Service, U.S. Department of Agriculture. *Tobacco Yearbook 2006*, 2006; <http://usda.mannlib.cornell.edu/MannUsda/viewDocumentInfo.do?documentID=1392>.